PEPH Evaluation Metrics

Inaugural PEPH Program Meeting

April 26, 2010

Christie Drew, NIEHS
Program Analysis Branch, DERT
drewc@niehs.nih.gov /919-541-3319

U.S. Department of Health and Human Services
National Institutes of Health
National Institute of Environmental Health Sciences

NIEHS
National Institute of Environmental Health Sciences

Collaborators

Science and Technology Policy Institute

Cara M. O'Donnell
Ashley T. Brenner
Sarah J. Ryker
Stephanie S. Shipp

National Institute of Environmental Health Sciences

Beth Anderson
Sharon Beard
Helena Davis
Caroline H. Dilworth
Liam O'Fallon

Questions you may be asking…

- Why create a PEPH Evaluation Metrics Manual?
- What do you mean by “metrics”?
- Who are you trying to reach with this document?
- How did you develop the manual?
- What are you really talking about here? Lets see some examples

- More questions…& Discussion

Why create a PEPH Evaluation Metrics Manual?

- PEPH Stakeholders identified evaluation metrics as a clear need:
  - RFI & Workshop, 2008
- Need logic models, approaches, and tangible metrics to use in both planning and evaluation
- Establish a common language around activities, outputs, and impacts among those involved in PEPH projects

What do we mean by “metrics”?

- METRIC = a measure of magnitude (or another characteristic)
  - An inch is a metric for length
  - Length is a characteristic of an object – e.g., a projection screen
- All metrics are not equal; some are much easier to understand and apply than others
  - It is more challenging to think about how to measure the magnitude of a partnership or an education program
  - A key step to define your metrics is to define the characteristics of what you are trying to measure
  - “Indicators”

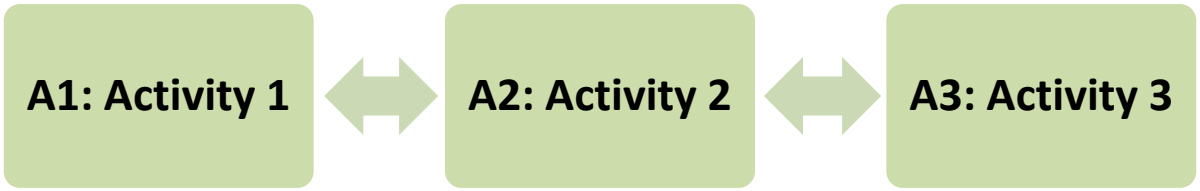
Logic Models

- A logic model typically describes how a program is expected
  - to utilize various resources (*inputs*)
  - conduct a range of *activities*
  - to produce a series of products (*outputs)*
  - which in turn result in benefits (*impacts*)
- Logic models can contain many layers of information but there is no single format that a logic model should take

W.K. Kellogg Foundation, “Logic model development guide: using logic models to bring together planning, evaluation and action,” 2004, Battle Creek, MI, http://www.wkkf.org/knowledge-center/resources/2010/Logic-Model-Development-Guide.aspx

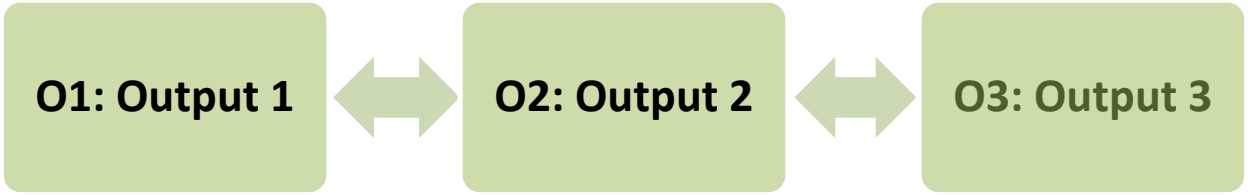
Example Logic Model

Activities = actions that use available inputs to "do" something



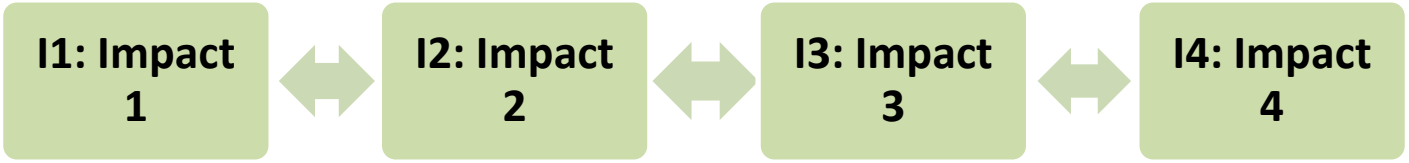
Process Measures

Outputs = direct products of activities



Outcome Measures

Impacts = benefits or changes resulting from the activities and outputs



Metric development

- Metrics can be developed for any component of a logic model
- Metrics are established based on the goals and components of a program
- The manual provides examples of metrics for each component of each logic model shown

For example…

- Goal: researchers aim to develop a new partnership with a particular community organization
- Identify an activity “To establish communication among partners”
- Possible metrics for this activity:
  - Methods developed and used to communicate with partners (e.g., in person visits, phone calls, list serve, newsletters)
  - Number of interactions (count over a particular period of time)
  - Regularity of outreach (daily, weekly, monthly, yearly)
  - Productivity of interactions (are clear action items established, completed, communicated?)

Types of Metrics

- **Nominal** scales refer to categorical descriptions that connote a sense of difference. Examples include fruit: apple, banana, orange, grapefruit.
- **Ordinal** scales describe a ranked order of values. E.g., first, second, third; or: good, better, best.

Stevens, S. S, "On the Theory of Scales of Measurement," *Science*, 1946, 103 (2684): 677–680, doi:10.1126/science.103.2684.677, PMID 17750512, http://www.sciencemag.org/cgi/rapidpdf/103/2684/677

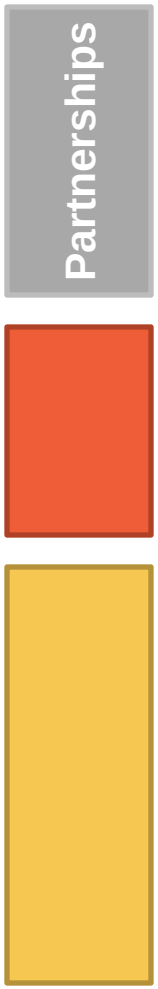
Who are we trying to reach with the manual?

- PEPH grantees and partners
- NIEHS and other agency program staff working with PEPH
- Other groups and organizations interested in measuring PEPH-like activities

How did we develop the manual?

- Discussions with NIEHS staff
  - Prioritized PEPH program activity areas (for metrics!)

Priority PEPH Program Activity Areas (for metrics)



1. Partnerships
2. Participatory research
3. Leveraging
4. Products and dissemination
5. Education and training
6. Capacity-building for communities
7. Capacity-building for researchers
8. Capacity-building for health professionals
9. Capacity-building for policy-makers

How did we develop the manual?

- Discussions with NIEHS staff
  - Prioritized PEPH program activity areas (for metrics)
  - Gathered program literature
- Discussions with subject experts (grantees from a wide range of different programs)
  - Asked how grantees gauge success
- Literature review
  - Programmatic literature (summaries, websites, previous evaluation efforts)
  - Peer reviewed articles, book chapters, etc.
  - Web searches
- Synthesized common measures across programs and areas
- Drafted logic models, approaches, metrics for each area

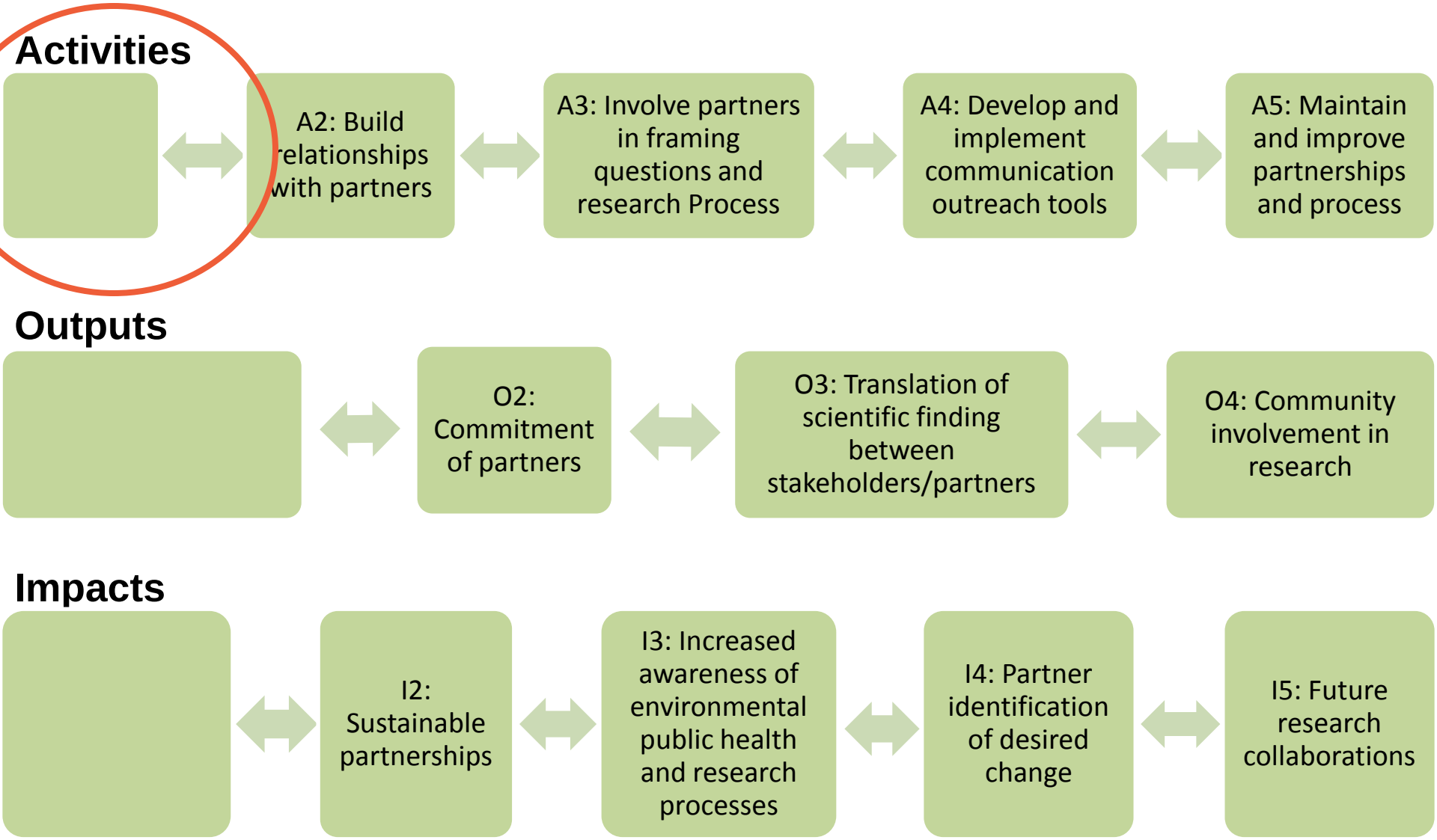
NIEHS
National Institute of Environmental Health Sciences

What are we really talking about here?

Examples of Metrics

NIEHS
National Institute of Environmental Health Sciences

PEPH Partnerships Logic Model (draft)



Activity 1: Metrics for identifying partners

- Number of contacts made with potential partners
- Number of potential partners who express interest in the project
- Needs of each partner
- Project goals as related to partnerships
- Potential or perceived benefits of the partnership to each partner
  - visibility, access to priority populations, networking opportunities, opportunities for staff development, technical assistance, connections to key stakeholders, funding, etc
- Resources that each partner can contribute
- Additional partners that could be added in the future
- Historical trust issues between partners and descriptions of the methods that will be pursued in dealing with these issues

Approaches to gather data for A1 metrics

- Keep good records of interactions
  - Letters reaching out to partners
  - Phone log
  - Summary of discussions, understanding, context
- Correspondence
  - Email, letters of support, resource commitments
- Documentation
  - Meeting agendas, notes, action items, follow up
  - Presentations

Activity 2: Metrics for building relationships with partners

- Formal agreement(s) established
- Individuals have access to formal agreements (they have copies, know what the agreements are and where to find them)
- List of advisory board members and affiliations
- Research priorities of partners
- Mutually agreed upon expectations of each partner
- Information exchanged between partners
- Outreach and collaboration partnership activities – examples of working together on common aims
- Barriers to communication: cultural, language, educational, other differences between partners and how these are to be addressed
- Level of satisfaction regarding the partnership

Output 3: Translation of scientific findings to partners

- Number and types of materials that translate findings
- Co-authorship on materials (with a mix of partners as appropriate)
- Partnership continues research, info sharing, decision-making:
  - Subsequent funding
  - Subsequent publications
- Research materials or findings/messages are used by partners in other settings
- Description of requests by others for materials
- Indicators that findings were translated to new audiences
- Description and use of research data in partner documents and materials

Impact 3: Sustainable partnerships

- Number of years the project/program has existed
- Long-term plans and benefits to each partner
- Number and types of individuals and partners that program has reached;
  - Level of geographic reach and relevance of the project
- Strategies for sharing power among partners
- Challenges identified by partners and how they are/were addressed

Example: Urban Environmental Policy Institute:
Healthy Food, Healthy Schools and Healthy Communities Program

Who: Healthy Food, Healthy Schools and Healthy Communities Program:

- Urban & Environmental Policy Institute, Occidental College
- Los Angeles Unified School District board members
- Parents and community partners

What: Formulated possible school-based policies, mapped out locations of food sources, and assessed quality and cost of food

- Using this information, able to change school policy by identifying new strategies to improve the food environment

Where: Los Angeles, California

Why: By involving parents, children, school administrators and the school district, the project was able to increase the transparency of research and raise awareness of environmental public health issues and the research process.

Example: Urban Environmental Policy Institute: Healthy Food, Healthy Schools and Healthy Communities Program

Hypothetical logic model components and metrics for this project

Activity: Map locations of food sources, assessed quality and cost of food

M1: Completed Map of food sources, quality & cost assessment (methodologies)

M2: Breadth and contribution of partners engaged

Outputs:

O1: Map of food source

O2: Assessment of food quality and costs

O3: Strategies for changing food policy

Impact: Increased awareness of environmental public health issues

M1: School Board changed school food policy

Impact: Increased awareness of research

M1: Parent and School Board Member involvement in developing school policy options

M2: Requests for research materials, speakers, etc.

NIEHS
National Institute of Environmental Health Sciences

Education & Training Logic Model (draft)

Activities

A1: Communicate among partners to establish education/ training partnerships and priorities

A2: Develop education/ training strategies and materials appropriate to audience

A3: Implement and test education/ training curricula and strategies

A4: Identify future training needs

A5: Maintain and improve education/ training program

Outputs

O1: Attendance and participation at education/ training events

O2: Audience access to education/ training materials

O3: Information uptake from education/ training

O4: Sustainability of education/ training

Impacts

I1: Increased awareness of EPH issues

I2: Increased awareness of the value of education/ training

I3: Secondary information transfer

I4: Safer workplace

Some issues to keep in mind

- The logic models are presented as linear frameworks, but in practice, PEPH programs are often not at all linear
- It may be tempting to use our example logic models as programmatic templates. We do not mean for them to be prescriptive!
  - We needed credible, realistic examples of logic models in order to illustrate metrics development.
- Many reasonable and laudable program elements may not appear in the logic model components presented.
- Grantees should NOT assume that just because we have not included something… that it is invalid.
- PEPH projects are NOT expected to adhere to or exhibit all elements

Next steps…

- Complete the PEPH Metrics Manual
  - Capacity Building
  - Products and dissemination
  - Leveraging
  - CBPR
  - Evaluation chapter
- Distribute and solicit comments
  - Grantees & community partners
  - Federal partners
  - Others…
- Revise and keep you posted

Bring on the Tomatoes!

Your comments are welcome

- Corrections to examples used to illustrate logic model components
- Additional examples that illustrate specific components or strings of components (activities, outputs, impacts)
- Additional program elements that you want help developing metrics for
- Major omissions
- Program sensitivities
- Have we gotten it wrong?

Thank you!

Anderson, Beth, NIEHS
Anderson, Henry, Wisconsin Division of Public Health
Beard, Sharon, NIEHS
Brody, Julia, Silent Spring Institute
Carpenter, Hillary, Minnesota Department of Health
Collman, Gwen, NIEHS
Dilworth, Caroline, NIEHS
Fryer-Edwards, Kelly, University of Washington
Gray, Kathleen, UNC-Chapel Hill
Gray, Kimberly, NIEHS
Hricko, Andrea, University of Southern California
Humble, Michael, NIEHS
Israel, Barbara, University of Michigan
Kiefer, Matt, Pacific Northwest Agricultural Safety and Health Center
Kyle, Amy, University of California Berkeley
Lawler, Cindy, NIEHS
Lewis, Johnnye, University of New Mexico
McCauley, Linda, Emory University
McQuiston, Thomas, Center for Health, Safety and Environmental Education
Mazzocchi, Tony, Center for Health, Safety and Environmental Education
Miller, Pamela, Alaska Community Action on Toxics (ACAT)
Mirer, Frank, City University of New York
O'Fallon, Liam, NIEHS
Osterberg, David, University of Iowa
Sattler, Barbara, University of Maryland
Serrell, Nancy, Dartmouth College
Slatin, Craig, University of Massachusetts Lowell
Wilson, Omega, West End Revitalization Association
Wilson, Sacoby, Institute for Families in Society, University of South Carolina
Witherspoon, Nsedu, Children's Environmental Health Network (CEHN)
Wright, Beverly, Deep South Center on Environmental Justice

NIEHS
National Institute of Environmental Health Sciences

Discussion!